

FIG. 1

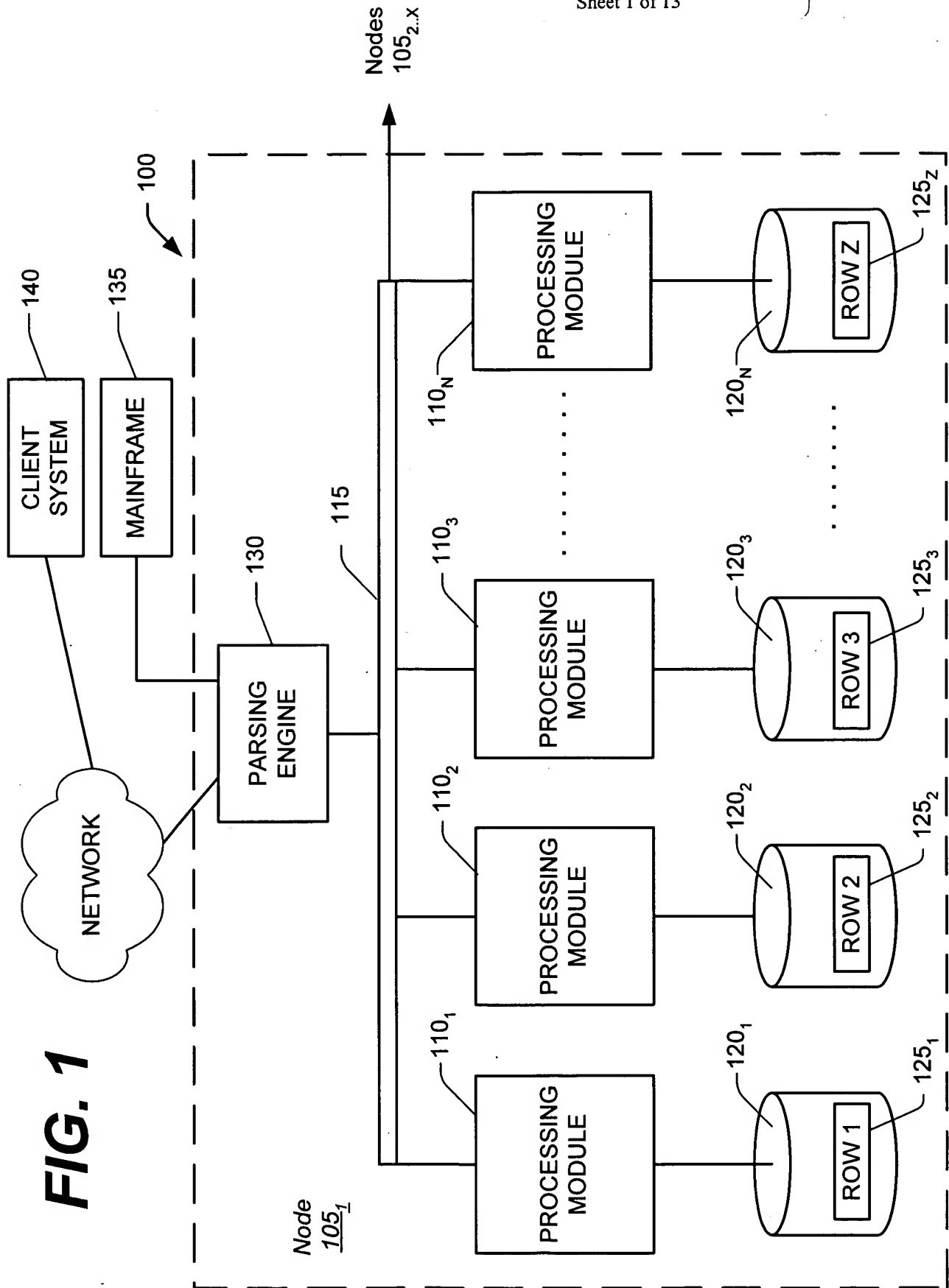


FIG. 2

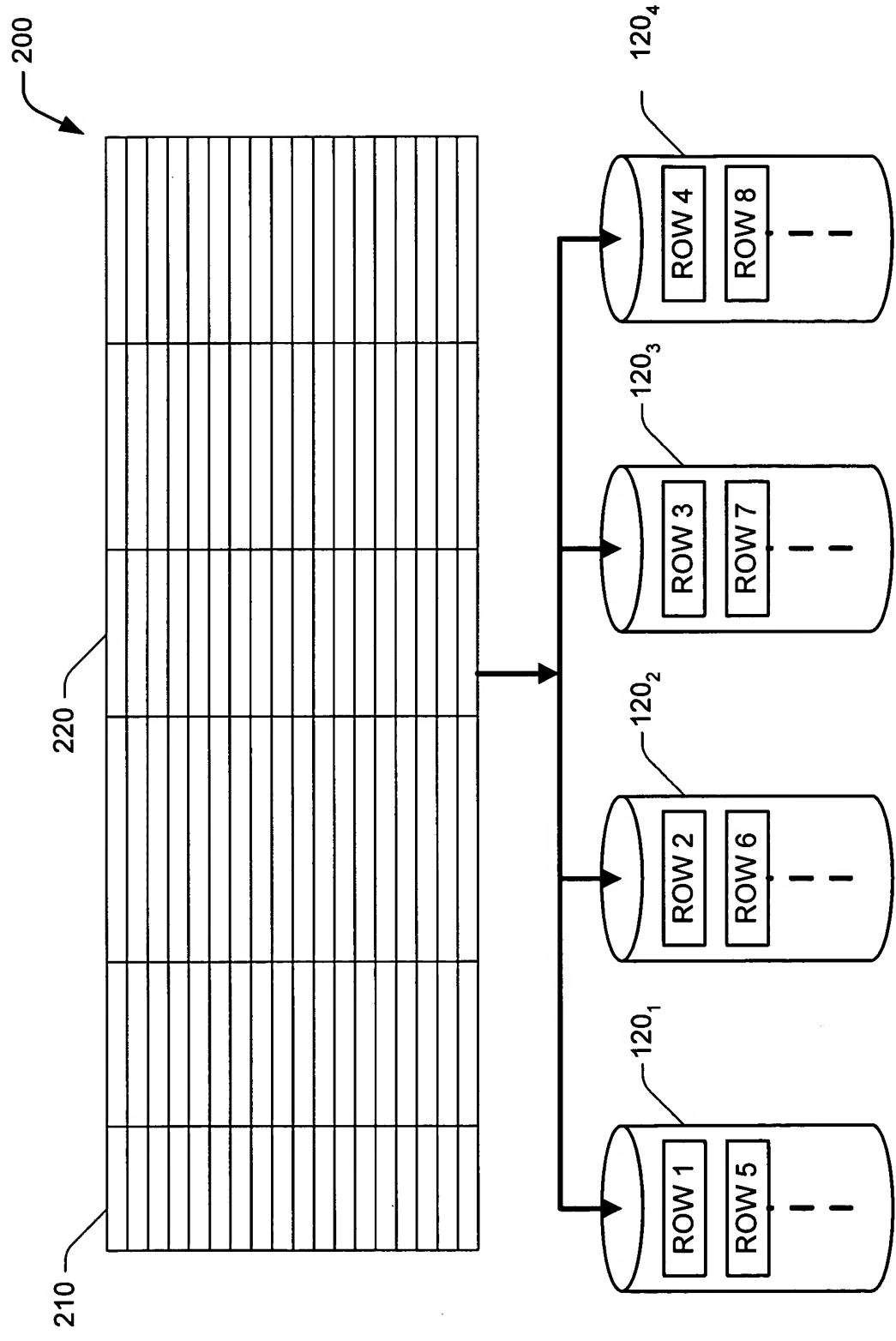


FIG. 2

FIG. 3

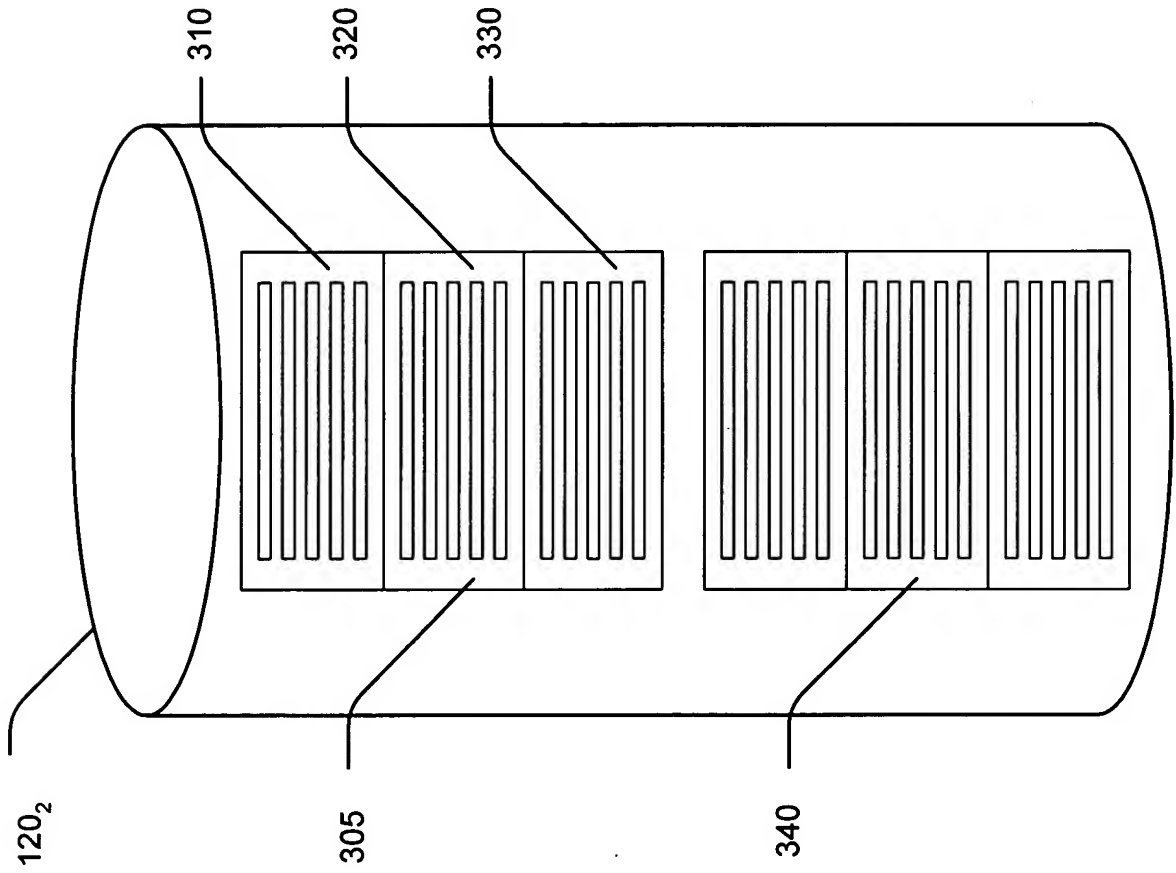


FIG. 3

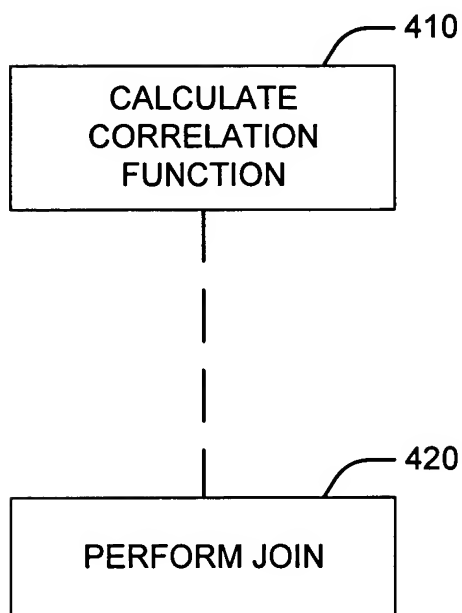


FIG. 4

410

PERFORM INNER JOIN
 BETWEEN T1 AND T2 USING
 PK=FK AS JOIN CONDITION

500

CREATE INITIAL
 RUNNING CONSTRAINT (RC)
 WITH AN EMPTY RANGE

505

FOR EACH ROW IN THE JOIN
 RESULT, COMPUTE A NEW
 CONSTRAINT

$$DATE_2 + (D_1 - D_2) \leq DATE_1 \leq DATE_2 + (D_1 - D_2)$$

510

FOR EACH ROW IN THE JOIN
 RESULT, COMPUTE
 (RC) = MERGE (NEW, RC)

515

DERIVED DATE
 CONSTRAINT RULE (DCR)

$$(PK = FK) \rightarrow DATE_2 + c_1 \leq DATE_1 \leq DATE_2 + c_2$$

520

DERIVE USEFULNESS OF
 DDCR

$$USEFULNESS = \frac{c_2 - c_1}{SIZE}$$

525

IF USEFULNESS <
 THRESHOLD (E.G. 0.5), SAVE
 AND MAINTAIN DCR

530

FIG. 5

FIG. 5

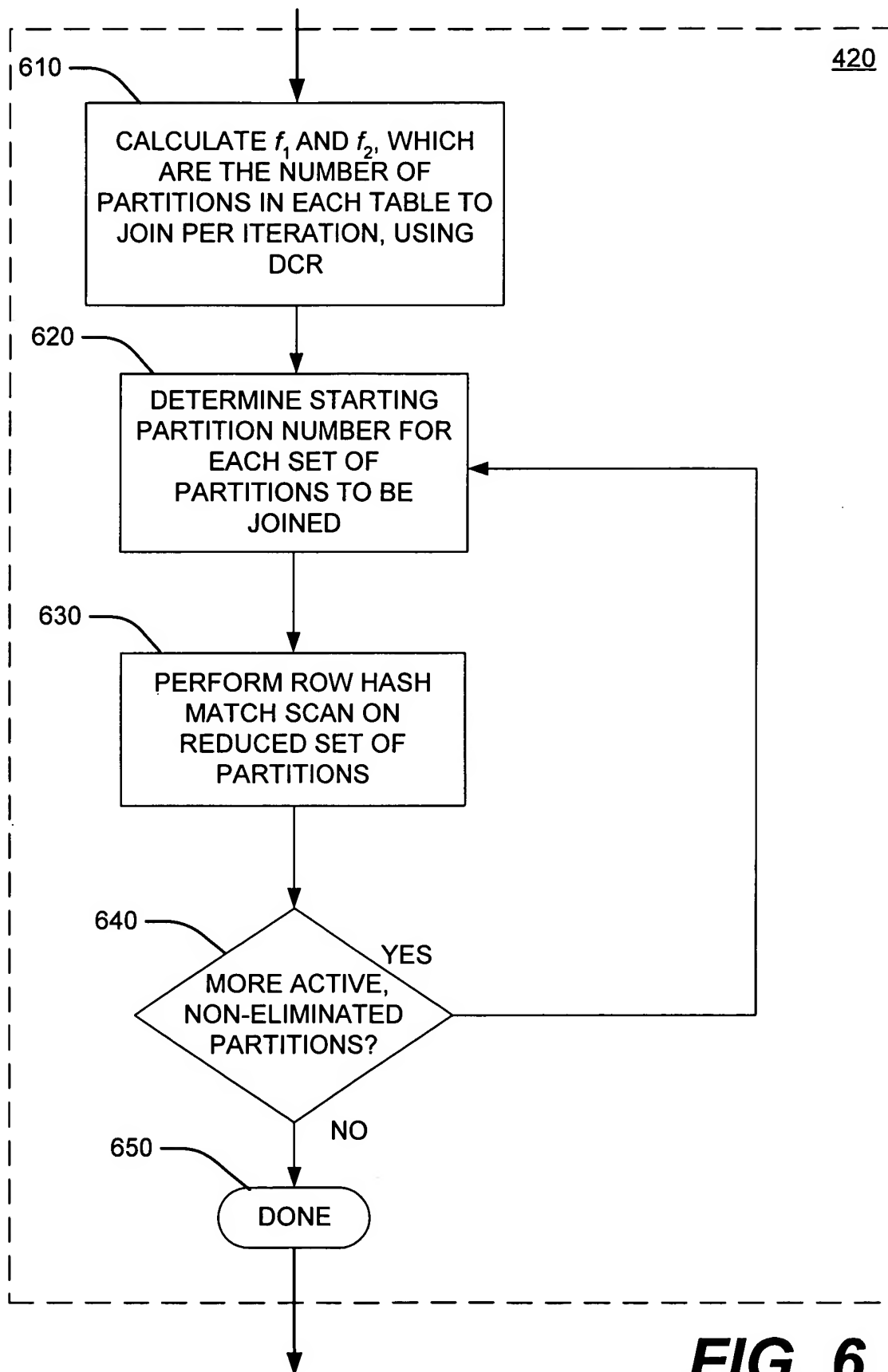


FIG. 6

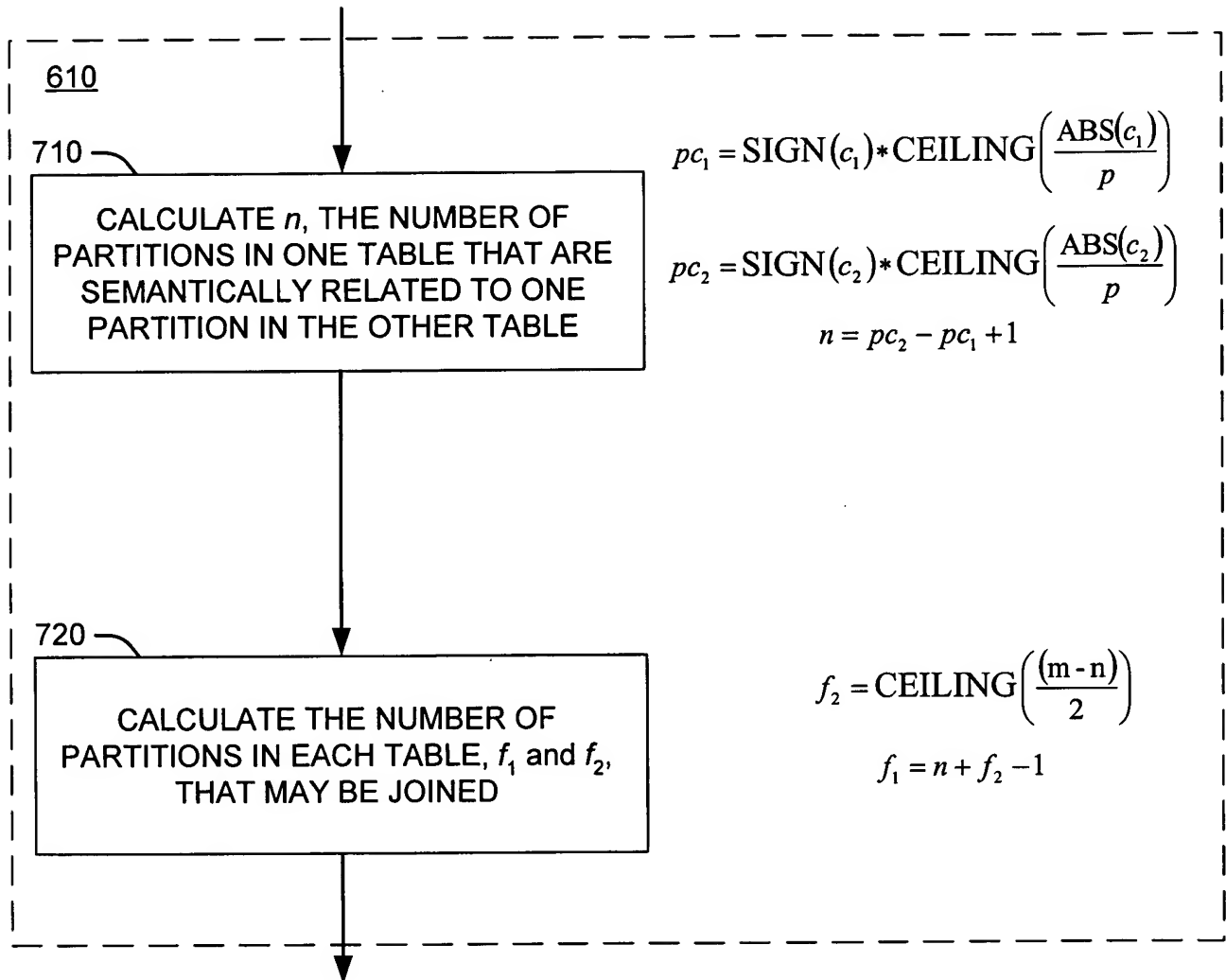


FIG. 7

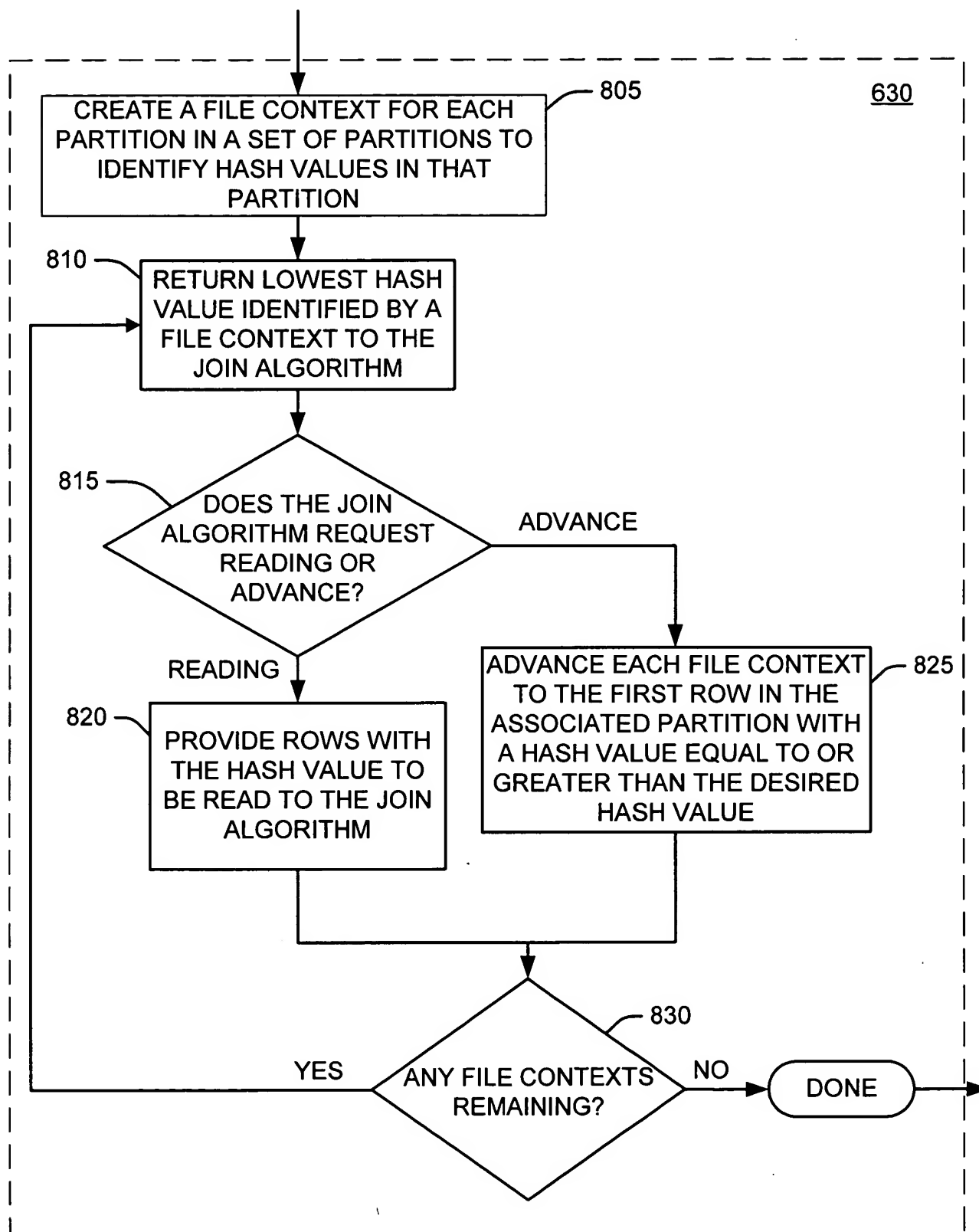


FIG. 8

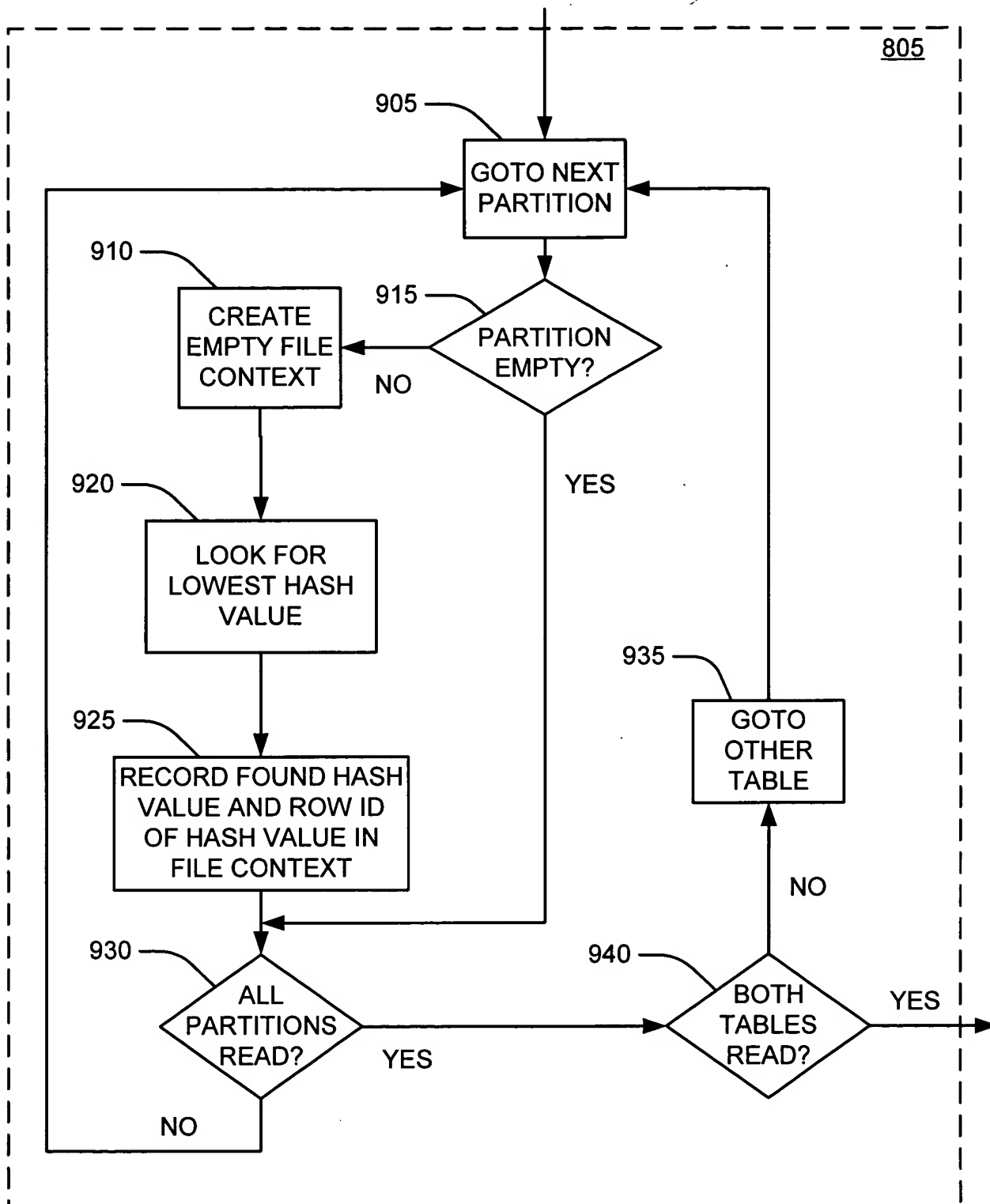


FIG. 9

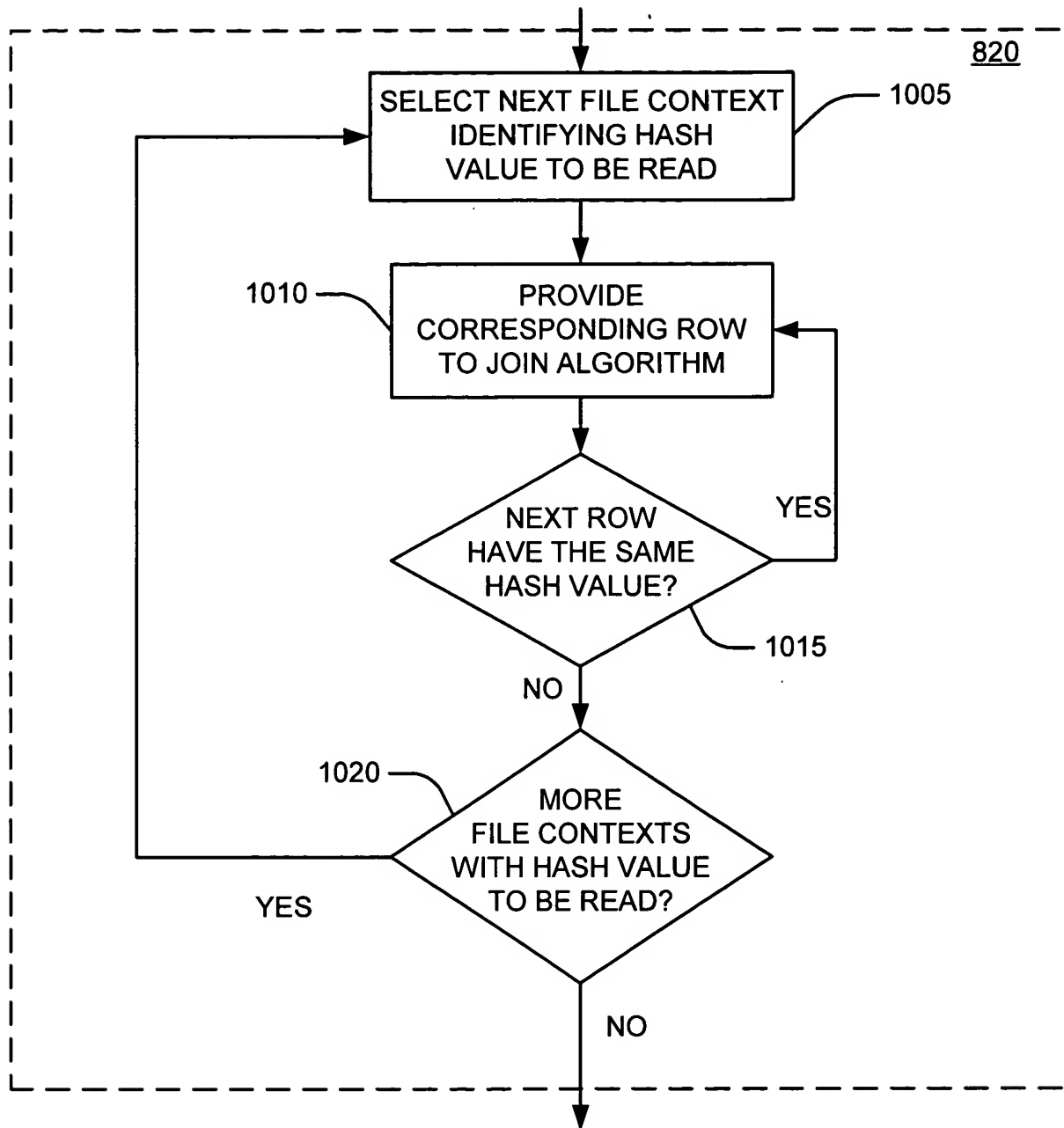


FIG. 10

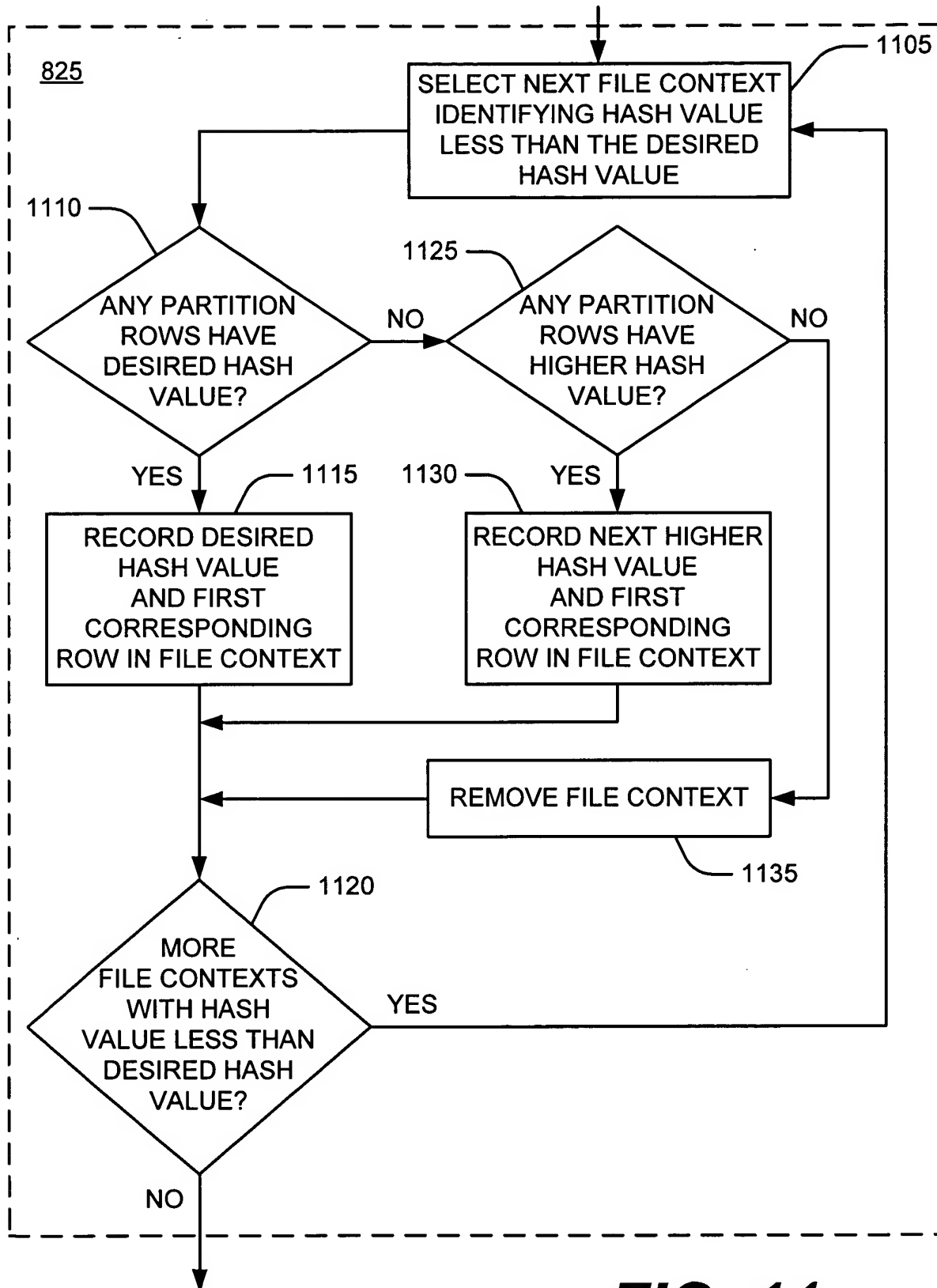


FIG. 11

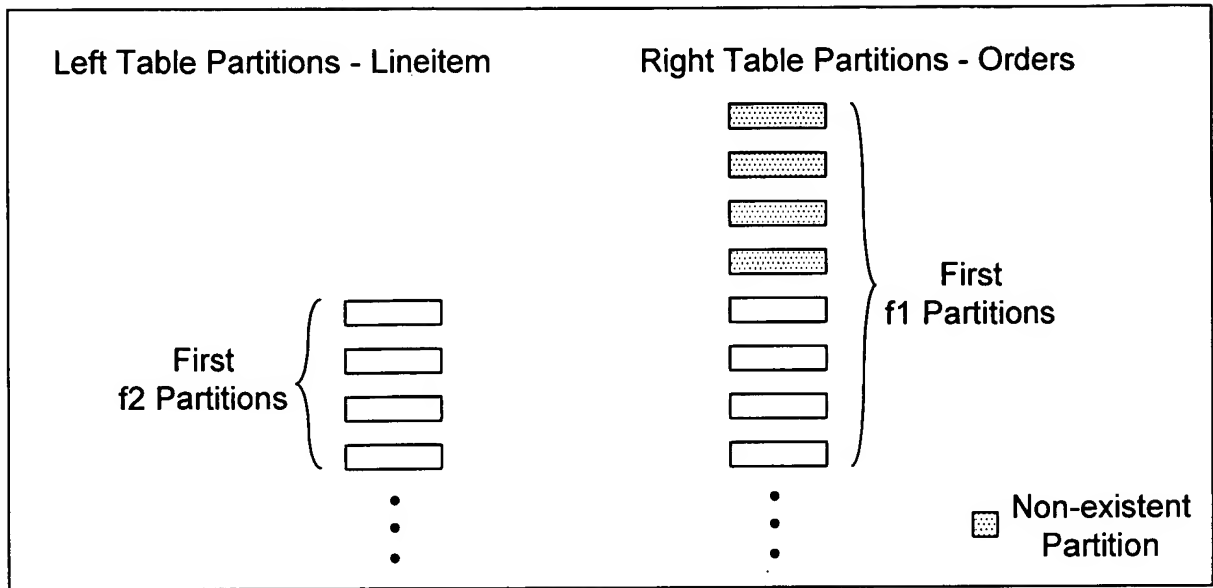


FIG. 12A

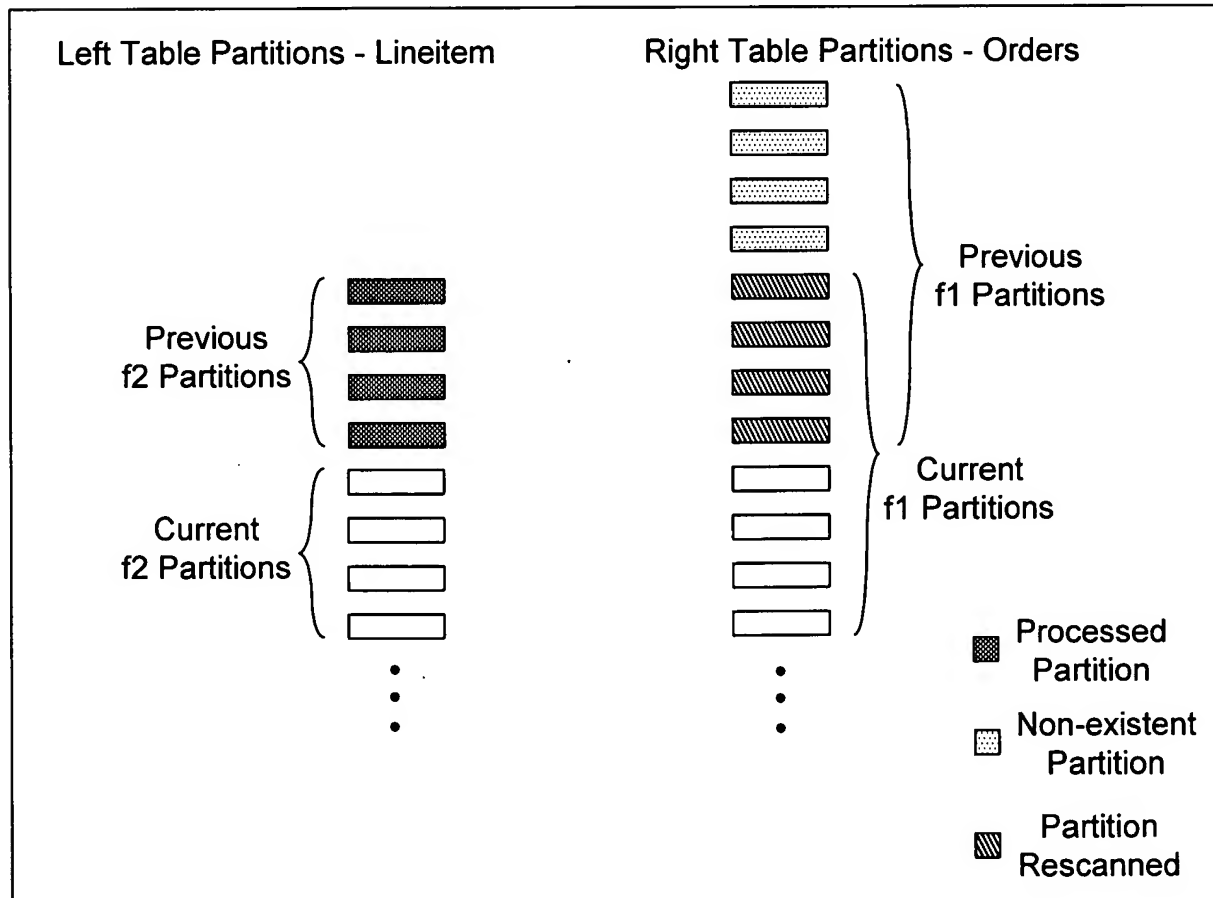


FIG. 12B

10036016-13601

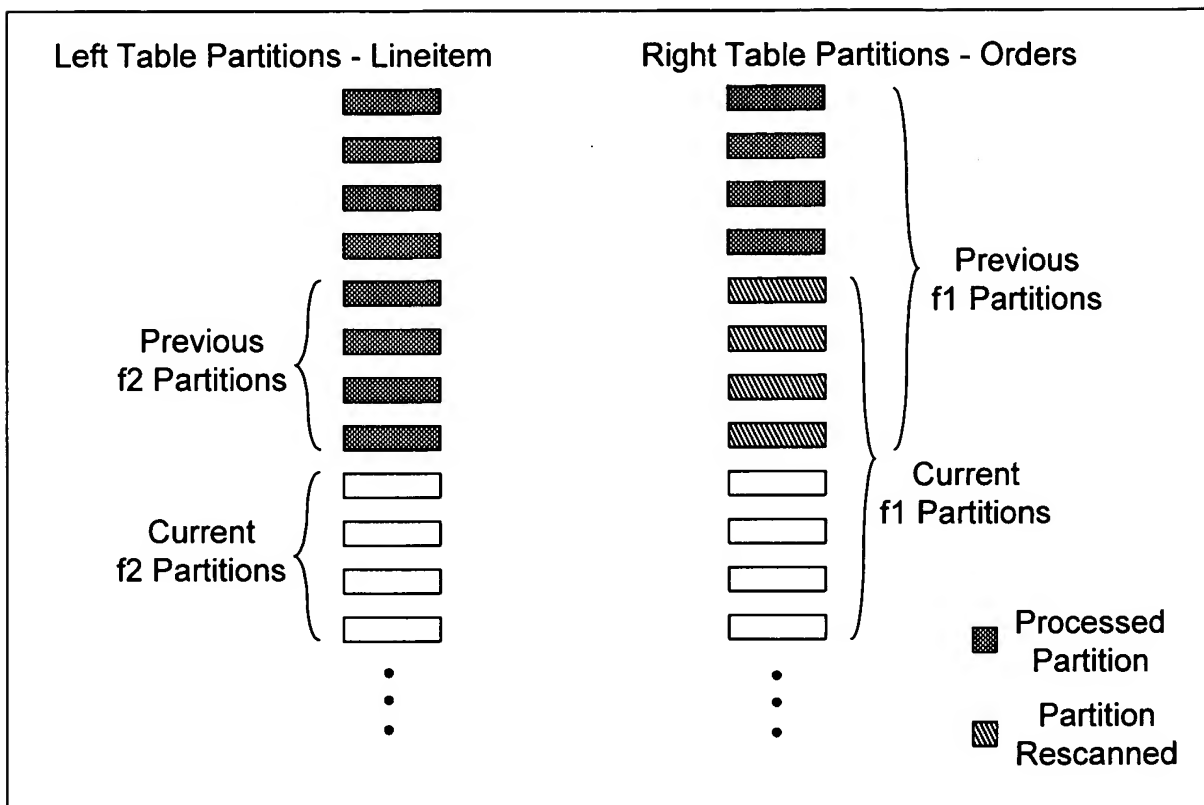


FIG. 12C